

WU - Is the system
consistent/inconsistent?
independent/dependent?

$$2x + 6y = 12$$

$$\begin{array}{r} 4x = 24 - 12y \\ \underline{-2x} \quad \underline{-12y} \end{array}$$

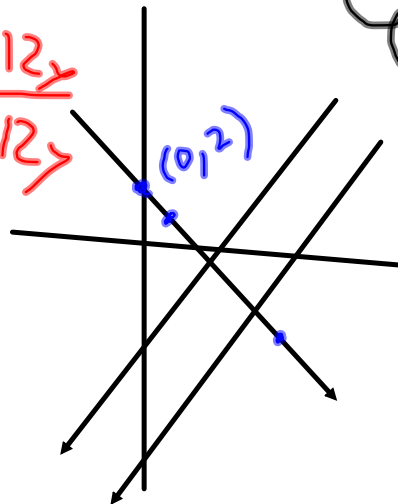
$$\begin{array}{r} 4x - 2y = -12y \\ \underline{-12} \quad \underline{-12y} \end{array}$$

$$y = -\frac{1}{3}x + 2$$

$$\begin{array}{r} 2x + 6y = 12 \\ \underline{-2x} \quad \underline{-2x} \end{array}$$

$$6y = 12 - 2x$$
$$y = -\frac{1}{3}x + 2$$

$$y = -\frac{1}{3}x + 2$$



$$\begin{aligned} 3x + y &= 16 \\ 2x - 3y &= -4 \end{aligned}$$

$$2x - 3(16 - 3x) = -4$$

$$2x - 48 + 9x = -4$$

$$2x + 9x = 44$$

$$11x = 44$$

$$x = 4$$

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$$\cancel{3x} + y = 16 - \cancel{3x}$$

$$y = 16 - 3(4)$$

$$y = 16 - 12$$

$$y = 4$$

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$$(4, 4)$$

$$3x - 4y = -5$$

$$-x + 3y = -5$$

$$\boxed{(-7, -4)}$$

$$-x + \cancel{3y} = -5 - 3y$$

$$\quad \quad \quad \cancel{-3y}$$

$$\frac{-x}{-1} = \frac{-5 - 3y}{-1}$$

$$3(5 + 3y) - 4y = -5$$

$$15 + 9y - 4y = -5$$

$$\cancel{15} + 5y = -5$$

$$\quad \quad \quad \cancel{-15}$$

$$\frac{5y}{5} = \frac{-20}{5}$$

$$\textcircled{y = -4}$$

$$x = 5 + 3y$$

$$x = 5 + 3(-4) = 5 - 12 = \textcircled{-7}$$

Elimination

Cancel out variables by adding equations together

$$(3x - 7y = 10) \cdot 2$$

$$6x - 8y = 8$$

$$6x - 8(-2) = 8$$

$$\begin{array}{r} 6x + 16 = 8 \\ -16 \quad -16 \\ \hline \end{array}$$

$$\begin{array}{r} 6x = -8 \\ \hline 6 \quad 6 \end{array}$$

$$x = -\frac{4}{3}$$

$$\text{or } -1.\overline{33}$$

$$-6x + 14y = -20$$

$$\begin{array}{r} 6x - 8y = 8 \\ \hline \end{array}$$

$$\begin{array}{r} \cancel{0x} + 6y = -12 \\ \hline 6 \quad 6 \end{array}$$

$$y = -2$$

$$\begin{aligned} (3x - 6y = 9) \times 4 \\ (-4x + 7y = -16) \times 3 \end{aligned}$$

$$\begin{aligned} 12x - 24y &= 36 \\ -12x + 21y &= -48 \\ \hline -3y &= -12 \\ \frac{-3y}{-3} &= \frac{-12}{-3} \end{aligned} \quad y = 4$$

$$\begin{aligned} (3x - 6y = 9) \times 7 \\ (-4x + 7y = -16) \times 6 \end{aligned}$$

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HW

write problem.
show work

1 Formative